



Montana Fish, Wildlife & Parks

1400 South 19th Avenue
Bozeman, MT 59718

September 8, 2014

To: FWP Region 3 EA Standard Distribution List

Ladies and Gentlemen,

The enclosed decision notice has been prepared for the proposed Eurasian Watermilfoil herbicide treatment project in the West Canal of the Canyon Ferry Wildlife Management Area near Townsend, MT. The purpose of the proposed project is to control the spread of EWM within Canyon Ferry WMA and to prevent it from spreading into downstream areas of the Missouri River system and to other areas where recreationists inadvertently carry the invasive plant species.

One party submitted comments. The respondent provided supporting comments on the proposed action. No comments were received by individuals or groups opposed to the proposed action.

It is my decision, based on the Environmental Assessment and public comment, to approve the implementation of Alternative 3. This alternative provides an integrated approach to control Eurasian Watermilfoil, including the use of specific herbicides described in this Decision Notice. This alternative will have no significant impacts on the human and physical environment. I therefore conclude that the Environmental Assessment is the appropriate level of analysis and that an Environmental Impact Statement is not required.

Thank you for your interest.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jim Williams', followed by a long horizontal flourish line.

Jim Williams
Acting Region Three Supervisor
Montana Fish, Wildlife & Parks



Montana Fish, Wildlife & Parks

Environmental Assessment Decision Notice

For the
Control of Eurasian Watermilfoil (*Myriophyllum spicatum*) within
Canyon Ferry Wildlife Management Area, Broadwater County, Montana
Montana Fish, Wildlife & Parks
Region 3, Bozeman
September 3, 2014

Preface

The enclosed Decision Notice is for treatment of Eurasian Watermilfoil in the West Canal in the Canyon Ferry Wildlife Management Area.

PURPOSE AND NEED

Proposed Action

The purpose of the proposed project is to control the spread of EWM within Canyon Ferry WMA and to prevent it from spreading into downstream areas of the Missouri River system and to other areas where recreationists inadvertently carry the invasive plant species. This environmental assessment evaluates three alternatives, which include a No Action Alternative, the current action of mechanical and cultural control (use of materials or techniques that reduce weed populations such as bottom barriers or water draw downs). The preferred alternative proposes to use mechanical, cultural, and chemical control in an integrated weed management approach (IWM). The IWM approach will help minimize the use of each option to minimize the potential impacts of each option to fish, wildlife, water quality, and habitat. Cultural and mechanical control will continue to be used in select areas while herbicide applications could occur in suitable sites such as the West Canal that diverts water to Pond 4. This project will last 5 years (2014-2018). During that time, additional herbicide application could occur in additional sites within Canyon Ferry WMA if management area staff determines their necessity.

Objective of the Proposed Action

The objective for the proposed project is to reduce the potential for spreading EWM to other locations via hunter and angler activities on the Canyon Ferry WMA and water bodies downstream, including Canyon Ferry Reservoir. It is unlikely that control efforts will eradicate EWM from Canyon Ferry WMA, as upstream populations will continue to provide plant propagules, but reductions in overall abundance will benefit native ecosystems as well as make weed suppression easier. Considerable reductions in populations from chemical control could allow land managers to implement less invasive measures such as manual and cultural controls throughout the management area.

Authorities and Relevant Documents

MDFWP manages Canyon Ferry WMA under a Cooperative Agreement (No. R12AC60042) with the U.S. Bureau of Reclamation. As part of that Cooperative Agreement, MDFWP has the responsibility to control noxious weeds on the property. This authority comes from the County Weed Act (MCA 7-22-2101 through 7-22-2154) that places noxious weed control on the responsibility of the landowner.

A Montana Discharge Elimination Permit (MPDES) is required to apply any pesticide in or over waters of the state. This permit is a pesticide discharge permit that allows the recipient to exceed temporarily tolerances established by the Montana Department of Environmental Quality. MDFWP obtained this permit on June 10, 2014 (Permit Number MTG870067).

Public Process and Comments

FWP is required by the Montana Environmental Policy Act (MEPA) to assess potential impacts of the proposed actions to the human and physical environment. An Environmental Assessment (EA) is in compliance with MEPA and was completed for the proposed project by FWP and released for public comment on July 25, 2014.

The following alternatives were considered in this Environmental Assessment:

Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no continuation of EWM control including manual or cultural controls within Canyon Ferry WMA. Therefore, the feasibility of using herbicides as a part of an IWM approach for controlling EWM in this system would be unknown. The EWM infestation would persist within the Missouri River and Canyon Ferry WMA and could potentially spread to other waterways within Montana. The No Action Alternative is not a viable alternative because Montana statute requires FWP to control weeds within their property boundary. If left unchecked, EWM will expand into new areas of the management area and Canyon Ferry Reservoir and negatively impact recreation, water quality, irrigation, fish and wildlife species, and the habitat upon which they depend.

Alternative 2: Continue with Manual and Cultural Control

Under this alternative, MDFWP would continue with manual and cultural control of EWM within the Missouri River and Canyon Ferry WMA. Efforts would continue to suppress the current weed infestation. These methods would be continued to be used unless a different management option is more efficient or effective. Increased costs and lower effectiveness for widespread infestations may allow EWM

populations to spread within the management area and potentially to other water bodies within Montana including Canyon Ferry Reservoir.

Hand Removal

Hand pulling may be an appropriate manual control method on small infestations. Hand pulling and removal of rooted submersed plants is labor intensive, but can be effective on small populations that are not widely established. After removal, plants are removed from the site and disposed of where they cannot contact water. No specialized equipment is required in water less than three feet, but snorkeling equipment or SCUBA gear is necessary in deeper waters. Sediment type, visibility, and ability to remove the entire plant, including roots, determine success of hand removal methods. Advantages of hand pulling include immediate clearing of the water column with low environmental impact. Disadvantages include high cost, temporary increases in turbidity from the digging process, ease of missing plants due to turbidity issues, low effectiveness for large infestations, and labor and time intensiveness. In addition, fragments from EWM can be produced easily, move to new locations, begin colonizing, and establish a new infestation (WSDE, 2010; USACE, 2011).

Diver-operated Suction Dredge

Diver-operated suction dredging is a manual control technology for invasive aquatic plant removal. During diver dredging operations, divers use venture pump systems (small gold mining dredges) to suction plants and roots from the sediment. The operator mounts the pumps on a vessel and the diver uses their hand or hand held tools to remove plants from sediment. The diver uses the suction hose to vacuum plants to the support vessel where a basket retains the plants while sediment and water discharge back into the water body. This method can be effective depending on sediment conditions, density of aquatic plants, and underwater visibility. Diver-operated suction dredging can control effectively early, low-level infestations. Disadvantages include high cost of control per acre, temporary increases in turbidity from the digging process, and easily missing plants due to turbidity issues. In addition, fragments from EWM can be produced easily, move to new locations, begin colonizing, and establish a new infestation (WSDE, 2010; USACE, 2011).

Bottom Barriers

Bottom barriers can culturally control localized aquatic plant populations through compression and light reduction. Bottom barriers specifically for aquatic weed control typically are manufactured from materials that are heavier than water such as PVC, fiberglass or nylon. Bottom barriers are anchored in place with a variety of options such as pins, sandbags, bricks, PVC pipes weighted with sand or steel rebar, or rock. Larger panels that are installed in water depths greater than 4 feet usually require SCUBA gear for proper installation. Solid fabric barriers often need slits or vents to allow gasses to escape and to prevent billowing. Bottom barriers are usually used to control dense, pioneer infestations of an invasive species or as a maintenance strategy around boat docks and swimming areas.

Bottom barriers are also one of the most expensive methods for aquatic vegetation control if used in a large-scale application. They are cost effective when used in small areas. Because the material and installation costs can be expensive, bottom barriers are generally applied to small areas such as around docks and in swimming areas (WSDE, 2010).

Bottom barriers should be left in place for a minimum of 1 to 2 months to ensure that target plants are controlled, but barriers must be regularly removed and cleaned of silt; otherwise, plants may begin to root on top of or through the barriers. Removal, cleaning and re-deployment is usually required every 1 to 3 years depending on the rate of silt accumulation. Bottom barriers non-selectively control aquatic

vegetation and may affect fish and other benthic organisms, which is another reason they are usually used for small, localized areas. In addition, high water flows can easily pick up bottom barriers and move them to new locations, potentially causing flooding risks if caught in culverts, which is a possible risk in the West Canal.

Water Drawdown

Water drawdowns can culturally control a number of invasive submersed species including EWM. This technique is used mostly in the northern U.S. to expose targeted plants to freezing and drying conditions. A principal attraction of a drawdown is that it is typically an inexpensive weed control strategy for lakes and canals with a suitable control structure. Plants that are controlled usually by drawdowns include many submersed species that reproduce primarily through vegetative means such as root structures and vegetative fragmentation.

Drawdown conditions maintained for 6 to 8 weeks will help ensure sufficient exposure to freezing and drying conditions. Excessive snow cover or precipitation can limit the effectiveness of this technique. Drawdowns are timed to begin during the fall months to avoid stranding amphibians, mollusks and other benthic organisms with limited mobility. When properly utilized, drawdowns can be a low-cost or no cost strategy to incorporate into an integrated management program.

A drawdown is not a feasible option in the West Canal. MDFWP staff annually close the head gate of the canal at the Missouri River, but groundwater seepage prevents complete dewatering. In addition, attempts to drain the canal completely have failed. Reductions in flows are possible but complete draining and drying of the canal has not been possible. High quantities of groundwater seep into the canal due to the high water table in the area, which provides flowing water throughout the year. In addition, the reach of the Missouri River where it enters Canyon Ferry Reservoir experiences frequent ice jams in the winter months. These ice jams lead to overland flooding that can introduce water into the canal and prevent complete draining, drying, and freezing of sediments and root systems. A water drawdown option has been eliminated from further evaluation, unless severe drought and decreases in groundwater depths occur.

Alternative 3 - Preferred Alternative: Utilize Chemical, Manual and Cultural Control

Under this alternative, MDFWP would conduct herbicide applications in the West Canal within Canyon Ferry WMA as part of an integrated weed management approach, as well as continue the use of manual and cultural controls in the Cottonwood Channel and other areas within Canyon Ferry WMA. A combination of two herbicides (Endothall and Triclopyr) would be applied by a licensed aquatic applicator during early summer when EWM is actively growing. Application of the herbicides would occur during a one to three day period beginning in July 2014.

Application of this alternative would occur over the next 5 years (2014-2018). During this time, herbicide applications would occur over multiple years to suppress and manage current EWM populations. As part of the integrated weed management approach, additional techniques such as hand removal, placement of bottom barriers, and diver-operated suction dredges may be used. Treatment will occur during period in which EWM is actively growing, which typically occurs from June through September. These techniques should be effective in locations with smaller infestations or in environmentally sensitive areas. Herbicides are effective control methods for larger infestations, such as is the West Canal, where other previously mentioned control options lose efficacy or become cost prohibitive.

Herbicides

Aquatic herbicides are applied as concentrated liquids, granules, or pellets. Liquid herbicide formulations are applied to the entire water column to control the submersed weeds, and granular and pellet products are applied using granular spreaders and target the water column with vegetative growth. Aquatic herbicide applicators calculate the volume of the water to be treated before applying aquatic herbicides to ensure that the appropriate amount of herbicide is used.

Similar to herbicides used in terrestrial system there are contact and systemic herbicides. Contact herbicides are the group of herbicides that result in the rapid injury or death of contacted plant tissues and lack mobility within plant tissues once taken into the plant tissue. Contact herbicides can be used to control temporarily aquatic plants such as EWM. These treatments are often initially effective, but treating large plants with a contact herbicide commonly leads to rapid recovery and re-growth from plant tissues that are not exposed to the herbicide. As a result, systemic products are also utilized to control emergent plants (SCE, 2010).

Systemic herbicides are mobile in plant tissue and move through the plant's water-conducting vessels (xylem) or food-transporting vessels (phloem). Once the herbicide is absorbed into the plant, it can move through one or both of these vessels and throughout the plant tissue to affect all portions of the plant, including underground roots and rhizomes. Systemic herbicides are used for a much smaller plant spectrum, including EWM. Control efforts often utilize a combination of herbicides in the management plan to improve overall control with herbicides (SCE, 2010).

Some types of herbicides that are used to control EWM effectively and examined for use in the Canyon Ferry WMA are listed below. Other chemicals may be used as they become available or as new science shows their safety and effectiveness in control of EWM.

Herbicides Selected for West Canal EWM control

Endothall

Endothall is used primarily to control submersed plants and use rates and methods of application vary substantially. Two forms of endothall are available: dipotassium salt and monoamine salts. The monoamine salts are more toxic to aquatic life, so it is not being considered for further evaluation. Levels above 0.3 grams of active ingredient for monoamine salts is toxic to fishes while it takes >100 grams of active ingredient for the dipotassium salts (WSDE, 2010). This low toxicity for dipotassium salts makes this contact herbicide widely used in the US. For quiescent or slow moving water, there may be approximately 7 days restriction for water uses including animal consumption, but in flowing water treatments such as in the West Canal, there are no restrictions for swimming, fishing, livestock watering, and turf irrigation. The effectiveness of Endothall is not affected by factors such as alkalinity or turbidity of the water.

Triclopyr

Triclopyr was registered for aquatic use in 2002 and a major use of this herbicide has been for selective control of EWM. Triclopyr does not control desirable native species like rushes (*Juncus* spp. and *Scirpus* spp.), cattails (*Typha* spp.), duckweed (*Lemna* spp.), Flatstem pondweed (*Potamogeton zosteriformis*),

coontail (*Ceratophyllum demersum*), Southern naiad (*Najas guadalupensis*), elodea (*Elodea Canadensis*), and most species of algae, including the green algae (*Spirogyra* spp., *Cladophora* spp., *Mougeotia* spp., *Volvox* spp., *Closterium* spp. and *Scenedesmus* spp.), *Chara* spp. and *Anabaena* spp. (Getsinger et al, 2000; Woodburn et al, 1993; Petty et al, 1998 and Green et al, 1989, Foster et al, 1997, Woodburn, 1988 and Houtman, 1997). There may be some sensitive native plant species that are susceptible to Triclopyr, but normally not at typical application concentration of 2.5ppm or less. Higher concentration levels can affect species such as southern naiad, elodea, and coontail (WSDE, 2004).

Triclopyr is registered as both liquid and granular amine formulations. Triclopyr is approved to be used in non-irrigation canals such as West Canal but not labeled for use in un-impounded rivers such as the Missouri River and associated side channels. To achieve the necessary effective contact time and concentration levels, flow through the ditch will be restricted for 24 to 48 hours and water levels reduced to a minimum. The flow rate will be measured and the area/volume to be treated will be estimated once the water levels have reached the minimum. These calculations will determine the concentration and application time for a metered dose system.

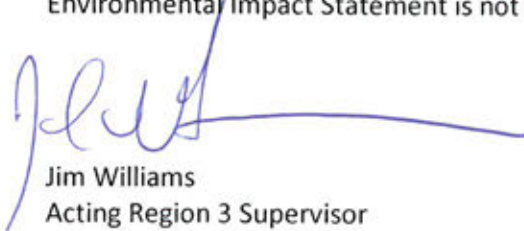
The most likely method of applying Triclopyr and Endothall will be to pump herbicide into the head of the canal using a metered chemical injection system. The herbicides will be applied at the rate/time needed to achieve the necessary contact time. Once the application has been completed, flow rates will be returned to normal, effectively diluting any remaining herbicides.

Public comments were taken for 30 days (through August 27, 2014). Legal notices were printed in the Helena Independent Record and Bozeman Chronicle. The Environmental Assessment was also posted on the FWP webpage: <http://fwp.mt.gov/.publicnotices/>.

One party submitted comments. The respondent provided supporting comments on the proposed action. No comments were received by individuals or groups opposed to the proposed action.

Decision

It is my decision, based on the Environmental Assessment and public comment, to approve the implementation of Alternative 3. This alternative provides an integrated approach to control Eurasian Watermilfoil, including the use of specific herbicides previously described in this Decision Notice. This alternative will have no significant impacts on the human and physical environment. I therefore conclude that the Environmental Assessment is the appropriate level of analysis and that an Environmental Impact Statement is not required.



Jim Williams
Acting Region 3 Supervisor
Montana Fish, Wildlife & Parks

Date

9/15/14